

REMARKS

By this amendment, claim 4 has been canceled. Claims 1 and 5 has been amended. Claims 1-3 and 5-6 remain in the application. Support for the amendments to the claim can be found the specification and drawings. No new matter has been added. This application has been carefully considered in connection with the Examiner's Action. Reconsideration, withdrawal of the final action, and allowance of the application, as amended, is respectfully requested.

Rejection under 35 U.S.C. §103

Claim 1 recites a high-pressure discharge lamp having a discharge vessel with a diameter on the order of 4 mm and a length on the order of 36 mm and with an ionisable filling comprising a buffer gas of 3.8 mg Hg and an excess amount of a metal halide, which is substantially formed by 8 mg Lil, the 8 mg Lil enabling the lamp to emit 15-20% of its radiation as blue light with a wavelength between 400 and 500 nm and on the order of 75% of its radiation as red light with a wavelength between 600 and 700 nm, the lamp emission matching an absorption spectrum of green plants, the lamp further having a coldest spot temperature T_{cs} during normal operation of at least 1200K.

Support for the amendments to claim 1 can be found in the specification at least on page 2, lines 26-27 (lamp emission matches an absorption spectrum of green plants); page 4, line 34 (4 mm diameter and 36 mm length); and page 5, lines 27-29 (3.8 mg Hg).

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Geijtenbeek et al. (US 6,147,453) in view of Lake (US 3,840,767). With respect to claim 1, Applicant respectfully traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness.

As the PTO recognizes in MPEP § 2142:

... The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...

It is submitted that, in the present case, the rejection is not factually supported by a prima facie case of obviousness for the following, mutually exclusive, reasons.

1. Even When Combined, the References Do Not Teach the Claimed Subject Matter

The Geijtenbeek and Lake patents cannot be applied to reject claim 1 under 35 U.S.C. § 103 which provides that:

A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ... (Emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since neither Geijtenbeek nor Lake teaches "... a discharge vessel with a diameter ... of 4 mm and a length ... of 36 mm and with an ionisable filling ... a buffer gas of 3.8 mg Hg and ... a metal halide ... 8 mg Lil enabling the lamp to emit 15-20% of its radiation as blue light with a wavelength between 400 and 500 nm and on the order of 75% of its radiation as red light with a wavelength between 600 and 700 nm ... the lamp emission matching an absorption spectrum of green plants ..." as is claimed in claim 1, it is impossible to render the subject matter of claim 1 as a whole obvious, and the explicit terms of the statute cannot be met.

Thus, for this mutually exclusive reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

2. Prior Art That Teaches Away From the Claimed Invention Cannot be Used to Establish Obviousness

In the present case, the Lake reference, by providing a tube with an inside diameter of 8 millimeters and an arc gap of about 34 centimeters which defines a volume of **17 cc** (*cubic centimeters*), requires that the filling used include **0.2 to 2 mg/cc** of Lil and *not over* 1.0 mg/cc of Hg, the latter corresponding to a fill content of Hg less than or equal to 1.0 mg/cc (See Lake - Col. 2, lines 14-19 and 42). In contrast, the lamp according to claim 1 provides a discharge vessel with a diameter of 4 mm and a length of 36 mm (corresponding to a volume of **0.452 cc**) and with a buffer gas of 3.8 mg Hg (corresponding to a fill content of Hg of approximately 8.4 mg/cc which represents a quantity greater than 1.0 mg/cc) and 8 mg of Lil (corresponding to a fill content of Lil of approximately 17.7 mg/cc which represents a quantity at least several orders of magnitude greater than 0.2 to 2 mg/cc). Thus, the lamp of Lake clearly teaches away from claim 1, recited above.

Since it is well recognized that teaching away from the claimed invention is a *per se* demonstration of lack of *prima facie* obviousness, it is clear that the examiner has not borne the initial burden of factually supporting any *prima facie* conclusion of obviousness.

Thus, for this reason alone, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

3. The Combination of References is Improper

Assuming, arguendo, that none of the above arguments for non-obviousness apply (which is clearly not the case based on the above), there is still another, mutually exclusive, and compelling reason why the Geijtenbeek and Lake patents cannot be applied to reject claim 1 under 35 U.S.C. § 103.

§ 2142 of the MPEP also provides:

...the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made....The examiner must put aside knowledge of the applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.

Here, neither Geijtenbeek nor Lake teaches, or even suggests, the desirability of the combination since neither teaches the specific "discharge vessel with a diameter ... of 4 mm and a length ... of 36 mm and with an ionisable filling ... a buffer gas of 3.8 mg Hg and ... a metal halide ... 8 mg Lil enabling the lamp to emit 15-20% of its radiation as blue light with a wavelength between 400 and 500 nm and on the order of 75% of its radiation as red light with a wavelength between 600 and 700 nm ... the lamp emission matching an absorption spectrum of green plants ...", as specified above and as claimed in claim 1.

Thus, it is clear that neither patent provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. § 103 rejection.

In this context, the MPEP further provides at § 2143.01:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

In the above context, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

In the present case it is clear that the examiner's combination arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claim 1. Therefore, for this mutually exclusive reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

In addition, it is noted that the lamp of Geijtenbeek et al. (US 6,147,453) has drawbacks as is discussed in the instant application on at least page 1, lines 19-21, 24-28; and on page 2, lines 1-2. Furthermore, the instant claimed invention provides unexpected and surprising results as discussed in the instant application on at least page 2, lines 29-34; and on page 3, lines 1-12.

Accordingly, claim 1 is allowable and an early formal notice thereof is requested. Dependent claims 2-3 and 5-6 depend from and further limit independent claim 1 and therefore are allowable as well. Accordingly, the 35 U.S.C. § 103(a) rejection thereof has now been overcome.

Conclusion

Except as indicated herein, the claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or a continuation application.

It is clear from all of the foregoing that independent claim 1 is in condition for allowance. Dependent claims 2, 3, 5 and 6 depend from and further limit independent claim 1 and therefore are allowable as well.

The amendments herein are fully supported by the original specification and drawings; therefore, no new matter is introduced. Withdrawal of the Final Action and an early formal notice of allowance of claims 1-3 and 5-6 is requested.

Respectfully submitted,

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